

REMARKS

Claims 1-12 remain in this application.

Claim 7 has been amended to recite the step of “calculating magnetic field distortion caused by eddy currents at the outside of said outer coil produced by leaking magnetic fields.” This amendment is supported by Figure 2 and lines 1-4 on page 20 of the original application.

Claims 1 and 7 are the only independent claims. Claims 2 to 6 depend on claim 1. Claims 8 to 12 depend on claim 7.

The Examiner has rejected claims 7, 10, and 12 under 35 U.S.C. §102(b) as anticipated by Morich U.S. Patent No. 5,296,810. Claims 2 to 6 are rejected under 35 U.S.C. § 103(a) citing Morich in view of Jin.

The Examiner acknowledges that Morich does not disclose “calculating magnetic field distortions caused by eddy currents at the outside of said outer coil produced by the leaking magnetic fields; and resetting the number of the outer coils and the number of turns of each outer coil such that the magnetic field distortions caused by eddy currents fall within a tolerable range.”

The Examiner relies upon the newly-cited Jin publication.

Reconsideration is respectfully requested.

At the beginning of “4.4 Shielded gradient coils”, Jin raises a problem that the magnetic field produced by a gradient coil induces eddy currents in other conducting structures which produce fields opposing that of the gradient coil, and Jin mentions the following solutions to this problem:

(1) to adjust the voltage waveform so as to produce the desired current and the field,

(2) passive shield, and

(3) active shielding using at least two coils (primary coil and shield coil) of different sizes.

The solutions (1) and (2) are clearly different from the present invention and the solution (3) relating to active shield is also different; namely, Jin shows calculations ((18)-(20)) and obtains the current distributions on the primary and shield coils, as shown in Figs. 11a and 11b. However, these calculations are used to find the current distribution on the shield coil and never suggest calculation of magnetic fields leaking from the inner and outer coils.

It is urged that since the combination of Morich and Jin fails to teach calculating distortions caused by leaking fields, claims 1 to 6 are allowable. Claim 7 has been amended to require calculation of distortions caused by leaking fields and, for that reason, claims 7 to 12 are also allowable.

In view of the foregoing amendments and remarks, it is urged this case is now in condition for allowance.

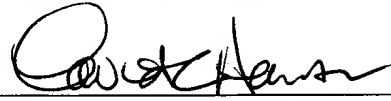
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It is respectfully requested that the amendments be entered for purposes of appeal.

Respectfully submitted,

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